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## PCW\_\_09\_\_22 Coordinate transformations v12

### Question 1

Consider the two functions  $f$  and  $g$ , where  $g$  is defined as a transformation of  $f$ :

$$g[x] = 6 \cdot f[9x + 5] + 2$$

For point  $(a, b)$  on curve  $f$  there is a corresponding point on the curve  $g$ . Write the coordinate transformation.

### Question 2

Consider the two functions  $f$  and  $g$ , where  $g$  is defined as a transformation of  $f$ :

$$g[x] = \frac{f\left[\frac{x}{9} - 3\right] + 4}{8}$$

For point  $(a, b)$  on curve  $f$  there is a corresponding point on the curve  $g$ . Write the coordinate transformation.

### Question 3

Consider the two functions  $f$  and  $g$ , where  $g$  is defined as a transformation of  $f$ :

$$g[x] = \frac{f[7(x - 9)]}{6} - 5$$

For point  $(a, b)$  on curve  $f$  there is a corresponding point on the curve  $g$ . Write the coordinate transformation.

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### Question 4

Consider the two functions  $f$  and  $g$ , where  $g$  is defined as a transformation of  $f$ :

$$g[x] = 9 \cdot \left( f\left[\frac{x+2}{6}\right] + 3 \right)$$

For point  $(a, b)$  on curve  $f$  there is a corresponding point on the curve  $g$ . Write the coordinate transformation.

### Question 5

Consider the two functions  $f$  and  $g$ , where  $g$  is defined as a transformation of  $f$ :

$$g[x] = \frac{f[8(x+3)]}{7} + 5$$

For point  $(a, b)$  on curve  $f$  there is a corresponding point on the curve  $g$ . Write the coordinate transformation.

### Question 6

Consider the two functions  $f$  and  $g$ , where  $g$  is defined as a transformation of  $f$ :

$$g[x] = 4 \cdot f\left[\frac{x-9}{5}\right] - 7$$

For point  $(a, b)$  on curve  $f$  there is a corresponding point on the curve  $g$ . Write the coordinate transformation.